



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,709	03/31/2004	Upendra V. Chaudhari	YOR920040077US1 (590.131)	5114
35195 7590 08/19/2008 FERENCE & ASSOCIATES LLC 409 BROAD STREET PITTSBURGH, PA 15143				
EXAMINER				
SAINT CYR, LEONARD				
ART UNIT		PAPER NUMBER		
2626				
MAIL DATE		DELIVERY MODE		
08/19/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/813,709

**Applicant(s)**

CHAUDHARI ET AL.

**Examiner**

LEONARD SAINT CYR

**Art Unit**

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 05/13/08 have been fully considered but they are not persuasive.

Applicant argues that neither Haritsa nor Teunen teach repeating attributing step until the identity of the individual is assessed incrementally based upon said accepted input (Amendment, pages 9 – 12).

The examiner disagrees, Haritsa teaches that "acoustic characteristics like voice pitch is an indicator of whether the speaker is an adult or a child, and also give indications regarding gender. Prosody, which is related to accent, intonation, volume, etc., can provide indicators about a person's social, and ethnic background...these acoustic and prosodic characteristics...can then be used separately or together in analyzing the characteristics of a caller's voice signal" (paragraph 10, see also claim 15, page 4). Using prosodic and acoustic separately to identify the user of an incoming call implies repeating attributing step until the identity of the individual is assessed incrementally based upon said accepted input, since acoustic and prosodic characteristics are being analyzed one after another.

Applicant argues that neither Haritsa nor Teunen teach performing a gradual determination of the identity of the individual via issuing a stream of cues over time,

each of said cues being indicative of one or more groups to which the individual belongs (Amendment, page 12).

The examiner disagrees, Haritsa teaches that "acoustic characteristics like voice pitch is an indicator of whether the speaker is an adult or a child, and also give indications regarding gender. Prosody, which is related to accent, intonation, volume, etc., can provide indicators about a person's social, and ethnic background...these acoustic and prosodic characteristics...can then be used separately or together in analyzing the characteristics of a caller's voice signal" (paragraph 10, see also claim 15, page 4). Using acoustic characteristic of the user voice to indicate whether the speaker is an adult or a child, gender; and after using prosodic characteristics to indicate user's social, and ethnic background implies performing a gradual determination of the identity of the individual via issuing a stream of cues over time, since acoustic and prosodic characteristics are being analyzed one after another.

Applicant's argues that neither Haritsa nor Teunen teach that wherein when an authentication session ends prior to a confident authentication because there is not enough input to make a confident decision, the partial confident information obtained is utilized (Amendment, page 4).

The examiner agrees, but this newly amended limitation is obvious over Haritsa. Please see claim rejection below.

***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1 – 13, 15 – 27, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Haritsa et al., (US PAP 2002/0046030).

As per claims 1, 2, 8, 15, 16, 22, and 29, Haritsa et al., teach a method for assessing the identity of an individual, said method comprising the steps of:

accepting input from an individual (paragraph 6, lines 1 – 3);

attributing at least one user group to the individual; and repeating attributing step until the identity of the individual is assessed incrementally ("acoustic and prosodic characteristics...can then be used separately or together in analyzing the characteristics of a caller's voice signal") based upon said accepted input ("depending on the scoring and the particular HMMs through which the speaker's voice is processed, the speaker can be characterized by different factors as for example, gender, age, geographic..."; paragraph 11, lines 4 – 19; paragraph 13, lines 10 – 18; paragraph 10).

As per claims 3, 4, 9, 11, 17, 18, 23, and 25, Haritsa et al., further disclose performing a gradual/partial determination of the identity of the individual via issuing a stream of cues over time, each of said cues being indicative of one or more user groups to which the individual belongs with a given degree of confidence ("depending on the scoring and the particular HMMs through which the speaker's voice is processed, the

speaker can be characterized by different factors as for example, gender, age, geographic..."; paragraph 11, lines 4 – 19; paragraph 13, lines 10 - 18).

As per claims 5, 6, 19, and 20 Haritsa et al., further disclose attributing to the individual at least one user group that is distinct from any user group previously attributed; wherein the individual is identified by narrowing down a quantity of possible individuals into smaller user groups (" male versus female, child versus adult...depending on the scoring and the particular HMMs through which the speaker's voice is processed, the speaker can be characterized by different factors as for example, gender, age, geographic..."; paragraph 11, lines 4 – 19; paragraph 13, lines 10 - 18).

As per claims 7, and 21, Haritsa et al., further disclose characterizing the identity of an individual as a vector of similarity scores with respect to given user groups ("depending on the scoring and the particular HMMs through which the speaker's voice is processed"; paragraph 11, lines 4 – 19).

As per claims 12, and 26, Haritsa et al., further disclose that said repeating step further comprises the step of performing real time data retrieval; and said step of performing real time data retrieval comprises employing the issued cues to narrow down a database to be searched (paragraph 11, lines 4 – 19).

As per claims 13, and 27, Haritsa et al., further disclose that said repeating step further comprises the step of performing real time discovery of the individual; and said step of performing real time discovering comprises employing the issued cues to narrow down user models which represent potential users to be scored (paragraph 11, lines 4 – 19).

***Claim Rejections - 35 USC § 103***

4. Claims 10, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haritsa et al., (US PAP 2002/0046030).

As per claims 10, and 24, Haritsa et al., further disclose performing a gradual/partial determination of the identity of the individual via issuing a stream of cues over time, each of said cues being indicative of one or more user groups to which the individual belongs with a given degree of confidence (“depending on the scoring and the particular HMMs through which the speaker’s voice is processed, the speaker can be characterized by different factors as for example, gender, age, geographic...”; paragraph 11, lines 4 – 19; paragraph 13, lines 10 - 18).

Haritsa et al., do not specifically teach that when an authentication session ends prior to a confident authentication because there is not enough input to make a confident decision, the partial confident information obtained is utilized. However, since Haritsa discloses that the caller’s input speech input signal is scored against N different HMMs...the one or more non-conflicting models with the highest scores are chosen. The call is directed to its destination based in part on the chosen one or more non-

conflicting models with the highest score (paragraph 14, lines last seven lines). One having ordinary skill in the art at the time the invention was made would have found it obvious to use partial confident information obtained for other models, because that would help verify the identity of the incoming call (paragraph 11, lines 1 - 5)

5. Claims 14, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haritsa et al., (US PAP 2002/0046030) in view of Teunen (US PAP 2005/0132235).

As per claims 14, and 28, Haritsa et al., do not specifically teach employing the issued cues to narrow down relevant imposter models which represent potential false users.

Teunen teaches that the term claimant is used to indicate the broad category of people each of whom are claiming to be a particular person. The classifier functions to classify a claimant as a true speaker or imposter based upon the outputs of the underlying verification technologies (paragraph 9, lines 10 – 13; paragraph 10, last five lines).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to identify the imposter models as taught by Teunen in Haritsa et al., because that would provide a high degree of confidence that the caller is an authorized user (paragraph 6, lines three lines).



***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **LEONARD SAINT CYR** whose telephone number is (571) 272-4247. The examiner can normally be reached on **Mon- Friday**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richemond Dorvil** can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS  
08/06/08  
/Michael N. Opsasnick/  
Primary Examiner, Art Unit 2626